

Report No : TST20250101698E Date:Jan.16, 2025 Page 1 of 18

Applicant : Mid Ocean Brands B.V.

Address : 7/F, Kings Tower, 111 King Lam Street, Cheung Sha Wan, Kowloon, Hong Kong.

Manufacturer : 117486

The following sample(s) was /were submitted and identified on behalf of the clients as:

Sample Name : Wireless charger

Main Model : MO2458

Sample Received Date : Jan.13, 2025

Testing Period : Jan.13, 2025 to Jan.16, 2025

Test requirements and

conclusions

: Please refer to next page(s).

Andy Zheng
Technical Director

Andy Zheng



Report No : TST20250101698E Date:Jan.16, 2025 Page 2 of 18

Test Requested and Conclusion(s):

No.	Standard and Requirement	Conclusion(s)
4	RoHS Directive 2011/65/EU	DACC
1	- XRF scanning	PASS
	RoHS Directive 2011/65/EU and its subsequent amendments (EU) 2015/863	
	- Pb/Cd/Hg/CrVI Content	
2	- Polybrominated diphenyl ethers(PBDEs)	PASS
	- Polybrominated biphenyls (PBBs)	
	- Phthalates	



Report No : TST20250101698E Date:Jan.16, 2025 Page 3 of 18

Sample description

Sample No	Sample description	Test photo group
1	Brown Wood	
2	Silver metal (screw)	
3	Silver metal	
4	Black magnet	, , (6
5	White paper	
6	White textile	
7	Yellow transparent sticker	



Report No : TST20250101698E Date:Jan.16, 2025 Page 4 of 18

Sample No	Sample description	Test photo group
8	Black magnet	9
9	White paper	
10	White textile	
11	Yellow transparent sticker	
12	Transparent soft plastic	12
13	Brown body (diode)	
14	Black body	
15	Black body (transistor)	
16	Black patch resistor	
17	Black body (diode)	
18	Silver solder	
19	Green PCB	



Report No : TST20250101698E Date:Jan.16, 2025 Page 5 of 18

Sample No	Sample description	Test photo group
20	Copper colored metal	20 21
21	Black magnet	
22	Silver magnet	
23	Brown resistor	25 23 26
24	Yellow sticker	24 27
25	Red soft plastic (wire sheath)	
26	Black soft plastic (wire sheath)	
27	Silver metal (socket)	
28	Silver solder	
29	Green PCB	29 30
30	Black patch resistor	
31	Black body (diode)	



Report No : TST20250101698E Date:Jan.16, 2025 Page 6 of 18

Sample No	Sample description	Test photo group
32	Black body	
33	Brown body (diode)	
34	Grey resistor	
35	Black body (transistor)	
36	Silver metal (USB port)	3,6
37	White soft plastic	37 40
38	Silver metal (socket)	
39	White soft plastic	
40	White soft plastic (cable sheath)	38 39
41	Orange plastic	41
42	Golden metal	42 43 44
43	Light orange plastic	
44	Silver solder	



Report No : TST20250101698E Date:Jan.16, 2025 Page 7 of 18

Sample No	Sample description	Test photo group
45	Black soft plastic (wire sheath)	45
46	Red soft plastic (wire sheath)	46 47
47	Green soft plastic (wire sheath)	
48	White soft plastic (wire sheath)	
49	Copper colored metal (wire core)	



Report No : TST20250101698E Date:Jan.16, 2025 Page 8 of 18

1.Test results:

XRF Scanning - RoHS Directive 2011/65 / EU

Methods: IEC 62321-3-1:2013 analysis by X-ray fluorescence spectrometry (XRF).

No.		R	esults of XR	F		Chemical confirmation	Conclusion	
NO.	Pb	Cd	Hg	Cr	Br	results (mg/kg)	331131431311	
1	BL	BL	BL	BL	BL		Pass	
2	BL	BL	BL	BL			Pass	
3	BL	BL	BL	BL			Pass	
4	BL	BL	BL	BL	BL		Pass	
5	BL	BL	BL	BL	BL		Pass	
6	BL	BL	BL	BL	BL		Pass	
7	BL	BL	BL	BL	BL		Pass	
8	BL	BL	BL	BL	BL		Pass	
9	BL	BL	BL	BL	BL		Pass	
10	BL	BL	BL	BL	BL		Pass	
11	BL	BL	BL	BL	BL		Pass	
12	BL	BL	BL	BL	BL		Pass	
13	BL	BL	BL	BL	BL		Pass	
14	BL	BL	BL	BL	BL		Pass	
15	BL	BL	BL	BL	BL		Pass	
16	BL	BL	BL	BL	BL		Pass	
17	BL	BL	BL	BL	BL		Pass	
18	BL	BL	BL	BL			Pass	
19	BL	BL	BL	BL	х	PBBs:N.D. PBDEs:N.D.	Pass	
20	BL	BL	BL	BL			Pass	

This report shall not be altered, increased or deleted. Without written approval of Dongguan True Safety Testing Co., Ltd., this test report shall not be copied except in full and published as advertisement. TST is not responsible for the authenticity of the information provided by the customer, including sample information. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 30 days only.

Dongguan True Safety Testing Co., Ltd.

Room 201, No.20, East of Houjie Avenue, Houjie, Dongguan, Guangdong, China

Tel:+86-0769-85088050

Fax:+86-0769-81221086

E-mail:tst@tst-test.com



Report No : TST20250101698E Date:Jan.16, 2025 Page 9 of 18

No.		R	esults of XR	Chemical confirmation	Conclusion		
	Pb	Cd	Hg	Cr	Br	results (mg/kg)	Conclusion
21	BL	BL	BL	BL	BL		Pass
22	BL	BL	BL	BL			Pass
23	BL	BL	BL	BL	BL		Pass
24	BL	BL	BL	BL	BL		Pass
25	BL	BL	BL	BL	BL		Pass
26	BL	BL	BL	BL	BL		Pass
27	BL	BL	BL	BL			Pass
28	BL	BL	BL	BL			Pass
29	BL	BL	BL	BL	Х	PBBs:N.D. PBDEs:N.D.	Pass
30	BL	BL	BL	BL	BL		Pass
31	BL	BL	BL	BL	BL		Pass
32	BL	BL	BL	BL	BL		Pass
33	BL	BL	BL	BL	BL		Pass
34	BL	BL	BL	BL	BL		Pass
35	BL	BL	BL	BL	BL		Pass
36	BL	BL	BL	BL			Pass
37	BL	BL	BL	BL	BL		Pass
38	BL	BL	BL	BL			Pass
39	BL	BL	BL	BL	BL		Pass
40	BL	BL	BL	BL	BL		Pass
41	BL	BL	BL	BL	BL		Pass

This report shall not be altered, increased or deleted. Without written approval of Dongguan True Safety Testing Co., Ltd., this test report shall not be copied except in full and published as advertisement. TST is not responsible for the authenticity of the information provided by the customer, including sample information. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 30 days only.

Dongguan True Safety Testing Co., Ltd. Room 201, No.20, East of Houjie Avenue, Houjie, Dongguan, Guangdong, China

Tel:+86-0769-85088050

Fax:+86-0769-81221086

E-mail:tst@tst-test.com



Report No : TST20250101698E Date:Jan.16, 2025 Page 10 of 18

No.	No	R	esults of XR	Chemical confirmation Conclusion			
110.	Pb	Cd	Hg	Cr	Br	results (mg/kg)	Conclusion
42	BL	BL	BL	BL			Pass
43	BL	BL	BL	BL	BL		Pass
44	BL	BL	BL	BL			Pass
45	BL	BL	BL	BL	BL		Pass
46	BL	BL	BL	BL	BL		Pass
47	BL	BL	BL	BL	BL		Pass
48	BL	BL	BL	BL	BL		Pass
49	BL	BL	BL	BL			Pass



Report No : TST20250101698E Date:Jan.16, 2025 Page 11 of 18

Remark:

- a. It is the result on total Br while test item on restricted substances is PBBs/PBDEs. It is the result on total Cr while test item on restricted substances is Cr(VI).
- b. The XRF screening test for RoHS elements-The reading may be different to the actual content in the sample be of non-uniformity composition.
- c. Results are obtained by EDXRF for primary screening, and further chemical testing by ICP-OES (for Pb, Cd, Hg), UV-VIS for Cr(VI) and GC-MS (for PBBs/PBDEs) is recommended to be performed if the concentration exceeds the below warming value according to IEC 62321-3-1:2013.

XRF Screening limits for different matrices :

	Concentration (mg/kg)						
Materials	Cd	Cr	Pb	Hg	Br		
Polymeric	BL≤60 <x<140≤ol< td=""><td>BL≤640<x< td=""><td>BL≤670<x<1330≤ol< td=""><td>BL≤660<x<1340≤ol< td=""><td>BL≤290<x< td=""></x<></td></x<1340≤ol<></td></x<1330≤ol<></td></x<></td></x<140≤ol<>	BL≤640 <x< td=""><td>BL≤670<x<1330≤ol< td=""><td>BL≤660<x<1340≤ol< td=""><td>BL≤290<x< td=""></x<></td></x<1340≤ol<></td></x<1330≤ol<></td></x<>	BL≤670 <x<1330≤ol< td=""><td>BL≤660<x<1340≤ol< td=""><td>BL≤290<x< td=""></x<></td></x<1340≤ol<></td></x<1330≤ol<>	BL≤660 <x<1340≤ol< td=""><td>BL≤290<x< td=""></x<></td></x<1340≤ol<>	BL≤290 <x< td=""></x<>		
Metallic	BL≤60 <x<140≤ol< td=""><td>BL≤640<x< td=""><td>BL≤670<x<1330≤ol< td=""><td>BL≤660<x<1340≤ol< td=""><td></td></x<1340≤ol<></td></x<1330≤ol<></td></x<></td></x<140≤ol<>	BL≤640 <x< td=""><td>BL≤670<x<1330≤ol< td=""><td>BL≤660<x<1340≤ol< td=""><td></td></x<1340≤ol<></td></x<1330≤ol<></td></x<>	BL≤670 <x<1330≤ol< td=""><td>BL≤660<x<1340≤ol< td=""><td></td></x<1340≤ol<></td></x<1330≤ol<>	BL≤660 <x<1340≤ol< td=""><td></td></x<1340≤ol<>			
Composite materials	BL≤40 <x<160≤ol< td=""><td>BL≤440<x< td=""><td>BL≤470<x<1530≤ol< td=""><td>BL≤460<x<1540≤ol< td=""><td>BL≤240<x< td=""></x<></td></x<1540≤ol<></td></x<1530≤ol<></td></x<></td></x<160≤ol<>	BL≤440 <x< td=""><td>BL≤470<x<1530≤ol< td=""><td>BL≤460<x<1540≤ol< td=""><td>BL≤240<x< td=""></x<></td></x<1540≤ol<></td></x<1530≤ol<></td></x<>	BL≤470 <x<1530≤ol< td=""><td>BL≤460<x<1540≤ol< td=""><td>BL≤240<x< td=""></x<></td></x<1540≤ol<></td></x<1530≤ol<>	BL≤460 <x<1540≤ol< td=""><td>BL≤240<x< td=""></x<></td></x<1540≤ol<>	BL≤240 <x< td=""></x<>		



Report No : TST20250101698E Date:Jan.16, 2025 Page 12 of 18

Note: -BL= Below Limit

-OL=Over Limit

-X = inconclusive, the region where need further chemical testing by ICP-OES (for Pb, Cd, Hg), UV-Vis (for Cr(VI)) and GC-MS (for PBBs, PBDEs).

- --- = Not Applicable
- mg/kg=milligrams per kilogram
- N.D.=Not Detected(<MDL)
- MDL= Method Detection Limit
- Negative = Absence of Cr(VI), the detected Cr(VI) concentration in the boiling water extraction solution is less than 0.02 mg/kg with 50cm² sample surface area used.
- *=According to 2011/65/EU Annex,point *Lead as an alloying element is steel containing up to 0.35% lead by weight, aluminum containing up to 0.4% lead by weight and as a copper alloy, containing up to 4% lead by weight can be exempted.



Report No : TST20250101698E Date:Jan.16, 2025 Page 13 of 18

2.Pb, Cd, Cr(VI), Hg, PBBs&PBDEs

Test Method:

A.Disassembly, disjointment and mechanical sample preparation

-Ref. to IEC 62321-2:2021, Disassembly, disjointment and mechanical sample preparation.

B.With reference to IEC 62321-1:2013, tests were performed for the samples indicated by the photos in this report.

(1)Screening - Lead, mercury, cadmium, total chromium and total bromine

—Ref. to IEC 62321-3-1:2013, Screening for Lead, mercury, cadmium, total chromium and total bromine by X-ray fluorescence spectrometry.

(2)Wet chemical test method

Test Item(s)	Test Method	Test Equipment	Unit	MDL	Limit
Pb	IEC62321-5:2013	ICP-OES	mg/kg	10	1000
Cd	IEC62321-5:2013	ICP-OES	mg/kg	10	100
Hg	IEC 62321-4:2013/AMD1:2017	ICP-OES	mg/kg	10	1000
Cr(VI) (Metal)	IEC62321-7-1:2015	UV-Vis	µg/cm²	0.10	0.13
Cr(VI) (Nonmetal)	IEC62321-7-2:2017	UV-Vis	mg/kg	10	1000
PBBs	IEC62321-6:2015	GC-MS	mg/kg	10	1000
PBDEs	IEC62321-6:2015	GC-MS	mg/kg	10	1000

РВ	Bs	PBDEs		
Monobromobiphenyl	Hexabromobiphenyl	Monobromodiphenyl ether	Hexabromodiphenyl ether	
Dibromobiphenyl	Heptabromobiphenyl	Dibromodiphenyl ether	Heptabromodiphenyl ether	
Tribromobiphenyl	Octabromobiphenyl	Tribromodiphenyl ether	Octabromodiphenyl ether	
Tetrabromobiphenyl	Nonabromobiphenyl	Tetrabromodiphenyl ether	Nonabromodiphenyl ether	
Pentabromobiphenyl	Decabromobiphenyl	Pentabromodiphenyl ether	Decabromodiphenyl ether	

This report shall not be altered, increased or deleted. Without written approval of Dongguan True Safety Testing Co., Ltd., this test report shall not be copied except in full and published as advertisement. TST is not responsible for the authenticity of the information provided by the customer, including sample information. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 30 days only.

Dongguan True Safety Testing Co., Ltd.

Room 201, No.20, East of Houjie Avenue, Houjie, Dongguan, Guangdong, China

Tel:+86-0769-85088050

Fax:+86-0769-81221086

E-mail:tst@tst-test.com



Report No : TST20250101698E Date:Jan.16, 2025 Page 14 of 18

3. Phthalates—DBP, BBP, DEHP & DIBP

Test Item(s)	Test Method	Test Equipment	Unit	MDL	Limit
Dibutyl Phthalate(DBP)	IEC62321-8:2017	GC-MS	mg/kg	30	1000
Benzylbutyl Phthalate (BBP)	IEC62321-8:2017	GC-MS	mg/kg	30	1000
Di-(2-ethylhexyl)Phthalate (DEHP)	IEC62321-8:2017	GC-MS	mg/kg	30	1000
Diisobutyl phthalate(DIBP)	IEC62321-8:2017	GC-MS	mg/kg	30	1000

Test result(s):

Part No.	Test Item (mg/kg)				Conclusion
	DBP	BBP	DEHP	DIBP	Conclusion
1	N.D.	N.D.	N.D.	N.D.	Pass
4+8+21	N.D.	N.D.	N.D.	N.D.	Pass
5+7+9	N.D.	N.D.	N.D.	N.D.	Pass
6+10	N.D.	N.D.	N.D.	N.D.	Pass
11	N.D.	N.D.	N.D.	N.D.	Pass
12+37+39	N.D.	N.D.	N.D.	N.D.	Pass
13+14+15	N.D.	N.D.	N.D.	N.D.	Pass
16	N.D.	N.D.	N.D.	N.D.	Pass
17+31+32	N.D.	N.D.	N.D.	N.D.	Pass
19	N.D.	N.D.	N.D.	N.D.	Pass
23	N.D.	N.D.	N.D.	N.D.	Pass
24	N.D.	N.D.	N.D.	N.D.	Pass
25	N.D.	N.D.	N.D.	N.D.	Pass
26	N.D.	N.D.	N.D.	N.D.	Pass
29	N.D.	N.D.	N.D.	N.D.	Pass



Report No : TST20250101698E Date:Jan.16, 2025 Page 15 of 18

30	N.D.	N.D.	N.D.	N.D.	Pass
33+35	N.D.	N.D.	N.D.	N.D.	Pass
34	N.D.	N.D.	N.D.	N.D.	Pass
40	N.D.	N.D.	N.D.	N.D.	Pass
41+43	N.D.	N.D.	N.D.	N.D.	Pass
45	N.D.	N.D.	N.D.	N.D.	Pass
46	N.D.	N.D.	N.D.	N.D.	Pass
47	N.D.	N.D.	N.D.	N.D.	Pass
48	N.D.	N.D.	N.D.	N.D.	Pass

Note: - mg/kg=milligrams per kilogram

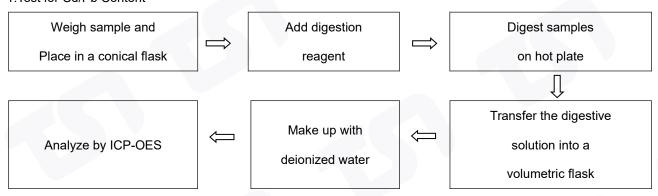
-N.D.=Not Detected(<MDL)



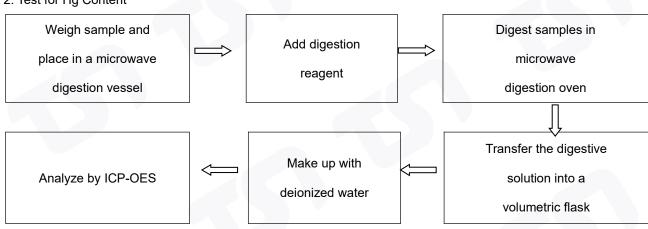
Report No : TST20250101698E Date:Jan.16, 2025 Page 16 of 18

Chemical Test Process:

1.Test for Cd/Pb Content



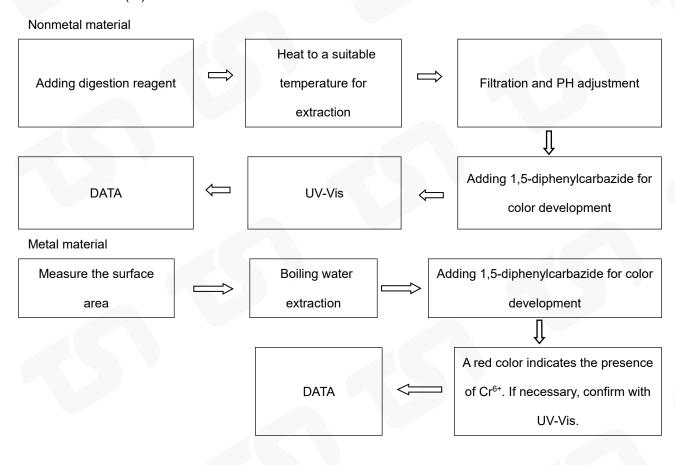
2. Test for Hg Content



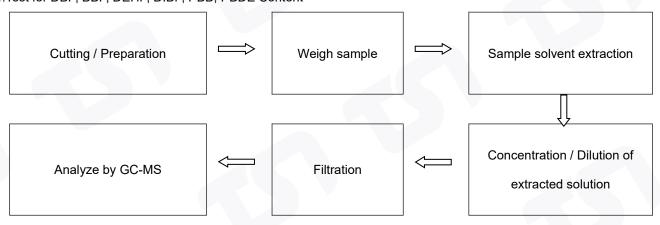


Report No : TST20250101698E Date:Jan.16, 2025 Page 17 of 18

3. Test for Chromium (VI) Content



4. Test for DBP, BBP, DEHP, DIBP, PBB, PBDE Content



This report shall not be altered, increased or deleted. Without written approval of Dongguan True Safety Testing Co., Ltd., this test report shall not be copied except in full and published as advertisement. TST is not responsible for the authenticity of the information provided by the customer, including sample information. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 30 days only.

Dongguan True Safety Testing Co., Ltd.

Room 201, No.20, East of Houjie Avenue, Houjie, Dongguan, Guangdong, China

Tel:+86-0769-85088050

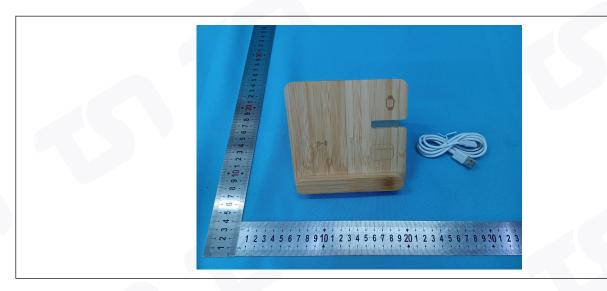
Fax:+86-0769-81221086

E-mail:tst@tst-test.com



Report No : TST20250101698E Date:Jan.16, 2025 Page 18 of 18

Sample pictures:



*** End of Report ***